Vi2804 4-Port Extended Ethernet Switch Installation Manual

MaxiiCollector™ Ethernet Extenders

The MaxiiCollector Model Vi2804 is a revolutionary four port switch that extends full-duplex High-Speed Ethernet over extended distance UTP and Coax infrastructures.

Typical extended distances can be achieved up to 3,000 feet (909 m) over UTP and up to 5,000 feet (1,524 m) over Coax.are:

The Vi2804 employs MaxiiCopper innovative and unique Ethernet extension technology that is designed to take full advantage of high-bandwidth networking cables and maintain a full-duplex 10 or 100 Mb/s Ethernet connection up to the maximum range with minimum transmission error and latency. The Vi2804 can connect multiple remote network devices such as Mega-pixel IP cameras or VoIP to a central LAN switching fabric with ease. Its dual-rate capability feature provides an easy way to balance the best possible network throughput and extended-reach distance design.

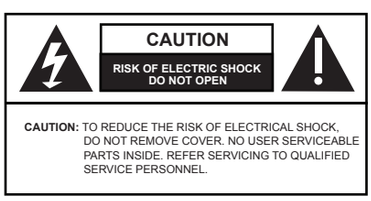
The Vi2804 is a transceiver device and needs to be deployed in conjunction with another Ethernet at the other end of extended UTP or Coax cable as master and slave devices. A dip switch sets the data rate between the remote and local location. It is equipped with LEDs to provide link status and configured data rate. No IP setting or configurations are required and it is completely transparent to the corporate IP network and higher layer protocols. The UTP or Coax cable needs to be point to point without any branches.

The four 10/100 Ethernet inputs can be routed from four individual devices, each with their own IP address. The switching component is pre-programmed and provides for 802.1p QoS priority queuing, port based VLAN, MAC address up to 2K, full and half duplex operation compliant to 802.3x, and automatic address learning and aging.

Fixed switch settings provides maximum network security.

Important Safety Warning

- Read and keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- Install in accordance with the manufacturer's instructions.
- This installation should be made by a qualified service person and should conform to all local codes.
- DO NOT bundle UTP or Coax signals in the same conduit as high-voltage wiring.
- To reduce the risk of fire or electrical shock, do not expose these products to rain, moisture, dripping or splashing.
- No objects filled with liquids, such as vases, shall be placed on Vigitron equipment.
- DO NOT install the unit in a place where the operating ambient temperature exceeds 75°C or is below - 40°C.
- Make sure that the external power supply output voltage is in the recommended range.
- Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including DVRs) that produce heat.
- Protect the power cord from being walked on or pinched particularly at power source, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when a power supply cord or plug is damaged, liquid has been spilled, objects have fallen inside the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- The main plug is used as the disconnect device and shall remain readily operable.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

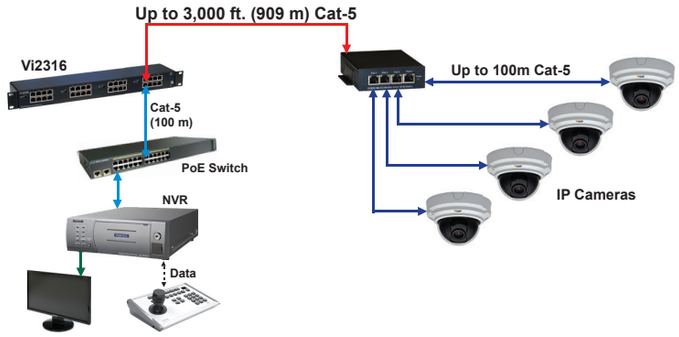
⚠ WARNING! - To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. This apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases shall be placed on the apparatus.

⚠ WARNING! - This apparatus is a Class I product. This product must be connected to a mains socket outlet thru an AC to DC Power supply.

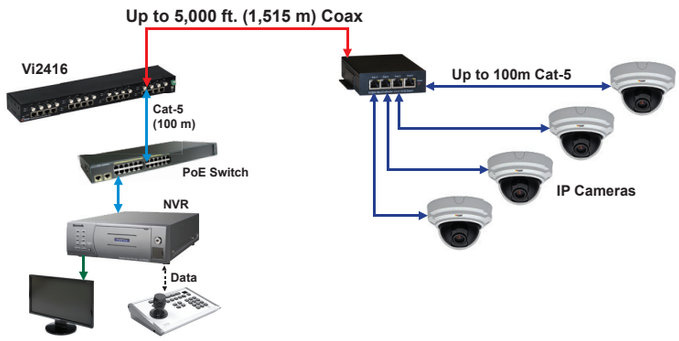
⚠ WARNING! - The mains plug is used as the disconnect device and shall remain readily operable.

Application Drawing

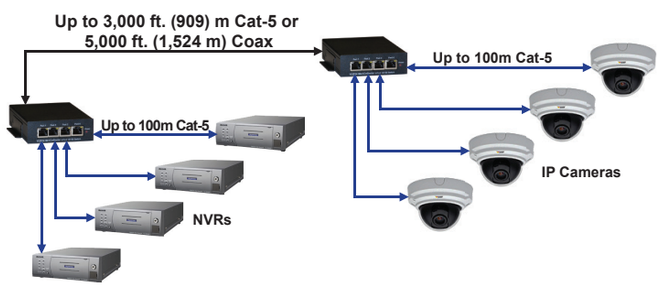
Extended UTP Application:



Extended Coax Application:



Extended UTP or Coax Application:



IP Camera-end Installation

-Set S1 (10/100 BaseT) dip switch to the appropriate rate based on the required maximum data rate and maximum distance.
-Set S2 (Master/Slave) dip switch to "Master" mode.
-Set S3 (1/4 pair) dip switch based on the desired number of pairs.
- Connect the external 12VDC power supply to the power connector of the Vi2804. An optional power adapter can be provided to simplify installation If no local power supply is present the Vi2804 will use PoE.
- Connect up to 4 IP camera's to the standard Ethernet ports of Vi2804 using a standard Cat5/6 patch cables of maximum 330 feet (100 m) in length. These ports will automatically sense the correct port speed based on the input signal. The link LED on the 10/100 connector should be "ON" to indicate proper connection between the camera and Vi2804.

Note: While each standard Ethernet port can operate at either 10 or 100 Mbps, the extended port is 100Mbps max. The recommended total bandwidth limitation should not exceed 54Mbps and is above the upper limit for transmitting four cameras.

Extended UTP connection:
-Connect one end of the extended UTP cable to the RJ45 connector of Vi2804. The link LED on the 10/100 connector should be "ON" to indicate proper connection between the camera and Vi2804.

Extended Coax connection:
- Connect one end of the extended Coax cable to the Coax connector of Vi2804. The link LED on the 10/100 connector should be "ON" to indicate proper connection between the camera and Vi2804.

Ethernet Switch/NVR-end Installation

Ethernet Switch/NVR-end Installation
-Set the Master/Slave dip switch to "Slave" mode.
-Set 10/100 and 1/4 pair dip switches the same as the camera-end setting.

Ethernet Switch/NVR-end Installation (continued)

Extended UTP connection:
-Connect one end of the extended UTP cable to the RJ45 connector of a Vi2300 series extender.

The link LED on the 10/100 connector should be “ON” to indicate proper connection between the Vi23xx and Vi2804.

Extended Coax connection:
- Connect one end of the extended Coax cable to the Coax connector of a Vi2300 series extender.

The link LED on the 10/100 connector should be “ON” to indicate proper connection between the Vi24xx and Vi2804.

-Connect the 12V power supply to the power connector of the Vi2xxx. When using Vi2xx1 and have PoE available it will use PoE if external power supply is not connected.
-Connect the RJ45 connector of the Ethernet switch to the 10/100BaseT Ethernet port of Vi2xxx using a standard Cat5/6 cable of maximum 328 feet (100 m). The link LED on the 10/100 Ethernet connector should be “ON” to indicate connection between the switch or NVR and Vi2804.

Technical Specifications*

Electrical

Ethernet Interface	Standard 10/100BaseT
Ethernet Rate	Dip switch selectable 10/100 Mb/s Full speed / full duplex at maximum rated distance
UTP**	100 Ohm, 3,000 feet (909 m) at 10BaseT 2,100 feet (640 m) at 100BaseT
Coax**	75 Ohm, 5,000 feet (1,524 m) at 10BaseT 1,800 feet (580 m) at 100BaseT
Power Supply	12 VDC, 24 VAC or POE @ 250 mA max.
Status LEDs	Extended Ethernet: Green/Orange LED, 10/100BaseT Standard Ethernet: Green LED, Activity Yellow LED, Link Power On: Red LED
Connectors	Ethernet Interface: 4 x RJ-45 Connector Extended Interface: Female BNC, RJ-45 Connector Power: Pluggable Terminal Block
RFC	2544 TCP/IP Packet Transmission
Compatible with	IEEE 802.3af PoE, IEEE 802.3at PoE
RFC	768 UDP, 2068 HTTP, 793 TCP 791 IP, 1783 TFTP, 894 IP over Ethernet
Jumbo Frame Support	Yes
Advanced Fixed Settings	Mac Address: 2K Max. Frame Size: 2KB VLAN Tagging: 802.1Q QoS: 802.1p , 4 Queues 1 per port DiffServ
Security	802.1x

Environmental

Humidity	0 to 95%, non-condensing
Temperature	Operating: -20°C to +75°C Storage: -40°C to +75°C

Mechanical

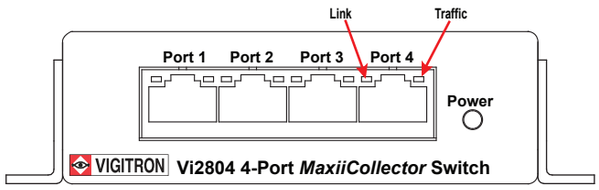
Dimensions	1.2x3.75x4.97 in., 3.0x9.53x12.6 cm (HxWxL)
Weight	0.64 lb (290 g)
Material	Aluminum

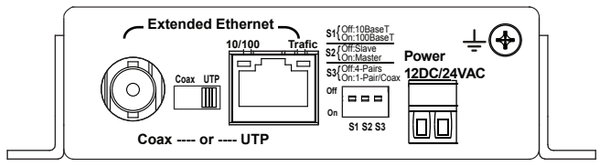
Accessories

12 VDC, 1 A wall-mount power supply (optional)

*Specifications subject to change without notice.
**Distance figures are obtained using in house testing mirroring installations. Factors such as cabling, connections, use of power and environmental conditions may affect actual distances and should be taken into consideration.

Status LEDs





LED Name	Color	Status	Function
Power	RED	OFF	Power is OFF
		ON	Power is ON
Traffic (Extended Side)	YELLOW	OFF	No Traffic
		FLASHING	Traffic
10/100 BaseT (Extended Side)	GREEN	ON	Connection is OK, 10BaseT Mode
	ORANGE	ON	Connection is OK, 100BaseT Mode
Traffic (Standard Side)	YELLOW	OFF	No connection
		FLASHING	Connection is OK with Traffic
Link (Standard Side)	GREEN	OFF	No connection
		ON	Connection is OK

Ordering Information

PART No.	Description
Vi2804	4-Port Extended Ethernet Switch
Vi0012	12VDC, 1A Wall-mount Power Supply

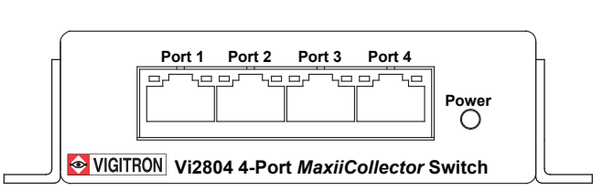
Limited Lifetime Warranty

Vigitron, Inc. warrants that all Vigitron products (“Product”), if used in accordance with these instructions, will be free of defects in material and workmanship for lifetime defined as the duration period of time until product end of life is announcement. After which Vigitron will continue to provide warranty services for a period of 3 years. Period covering valid warranty will be determined by proof of purchase in the form of an invoice from an authorized Vigitron dealer.

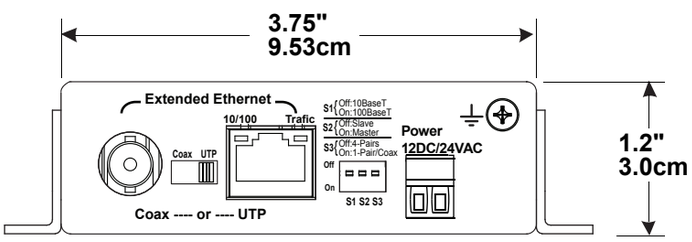
Warranty will only be provided for as long as the original end user purchaser owns the product. Warranty is not transferrable. At Vigitron's option, defective product will be repaired, replaced or substituted with a product of equal value. This warranty does not apply if, in the judgment of Vigitron, Inc., the Product fails due to damage from shipment, handling, storage, accident, abuse or misuse, or if it has been used or maintained not conforming to Product manual instructions, has been modified, or serial number removed or defaced. Repair by anyone other than Vigitron, Inc. or an approved agent will void this warranty. Vigitron, Inc. shall not under any circumstances be liable to any person for any incidental, indirect or consequential damages, including damages resulting from use or malfunction of the product, loss of profits or revenues or costs of replacement goods. The maximum liability of Vigitron, Inc. under this warranty is limited to the original purchase price of the Product only.

Prior to returning any defective Product, the end customer or the reseller from whom the end customer originally purchased the Product must obtain a Return Materials Authorization (RMA) number from Vigitron, Inc. All defective Products should be returned to Vigitron, Inc. with shipping charges prepaid. No collect shipments will be accepted.

Drawings



Front View



Rear View

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